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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/398,624	09/17/1999	JAMES B. KELLER	5500-46200	1320

7590   04/23/2003

LAWRENCE J MERKEL
CONLEY ROSE & TAYON PC
P O BOX 398
AUSTIN, TX 78767

EXAMINER
WAXMAN, ANDREW

ART UNIT	PAPER NUMBER
2662	

13

DATE MAILED: 04/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 07-01)

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— The MAILING DATE of this communication appears on the cover sheet with the correspondence address —

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE **3** MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☐ Responsive to communication(s) filed on _____ .

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-31* is/are pending in the application.

     4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1,7,10,15,18,19,24 and 29* is/are rejected.

7) ☒ Claim(s) *2-6,8,9,11-14,16,17,20-23,25-28,30 and 31* is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

     If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a) ☐ All   b) ☐ Some * c) ☐ None of:

        1. ☐ Certified copies of the priority documents have been received.

        2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

        3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

     * See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

     a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)   4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)   5) ☐ Notice of Informal Patent Application (PTO-152)

3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .   6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

2.   Claims 1, 7, 10, 15, 18, 19, 24, and 29 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Birrittella et al., patent number 5,797,035, in view of Scott et al., patent

number 5,748,900, herein after referred to as Birrittella and Scott respectively.

Regarding claim 10, Birrittella discloses a computer system including a first node and a

second node (Fig. 6) both configured to transmit and receive packets (see col. 6 lines 55-61 and

col. 10 lines 47-50). Both nodes also contain a plurality of control ('request' see col. 6 lines 55-

61) and response virtual channels assigned to transmit and receive a variety of control (request)

and response signals (see col 9 lines 45-63), and each of which is assigned a packet buffer (Fig.

14). Birrittella further discloses the response packet being a response to a first control ('request')

packet (see col 6. lines 55-67).

Birrittella does not disclose response packets being stored in response buffers

independent of which virtual channel the packet belongs.

Scott discloses storing response packets in a response buffer independent of which virtual channel the packet belongs (see col. 8 lines 9-17).

At the time the invention was made it would have been obvious to one of ordinary skill in the art to include the response buffer allocation scheme, as disclosed by Scott, in the computer system as disclosed by Birrittella.

One of ordinary skill in the art would have been motivated to do this in order to avoid deadlock, as stated in Scott col. 8, line 17.

Regarding claim 15, Birrittella further discloses each of the nodes configured to generate a first control (request) packet (see col. 6 lines 40-67).

Regarding claims 18 and 19, Birrittella discloses a computer system and method including a first node configured to transmit a first command (request) packet (see col. 6 lines 55-61 and col. 10 lines 47-50) in a first of a plurality of virtual channels ('request' see col. 6 lines 55-61). A second noe to receive the first command (request) packet and generate a first

response packet and transmit the first response packet using one of a plurality of response virtual

channels (see col 6. lines 55-67 and col. 9 lines 45-60).

Birrittella does not disclose response packets being stored in response buffers

independent of which virtual channel the packet belongs.

Scott discloses storing response packets in a response buffer independent of which virtual

channel the packet belongs (see col. 8 lines 9-17).

At the time the invention was made it would have been obvious to one of ordinary skill in

the art to include the response buffer allocation scheme, as disclosed by Scott, in the computer

system as disclosed by Birrittella.

One of ordinary skill in the art would have been motivated to do this in order to avoid

deadlock, as stated in Scott col. 8, line 17.

Regarding claim 24, Regarding claim 10, Birrittella discloses a node including one or

more response buffers (response buffer 0) assigned to a response virtual channel (virtual channel

2), one or more first control ('request buffer 0') packet buffers assigned to a first control (virtual

channel 0) virtual channel, and one or more second control (request buffer 1) packet buffer

assigned to a second control (virtual channel 1) virtual channel (Fig. 14 and see col. 9 lines 50-

63). Birrittella further discloses the response packet being a response to a first control ('request')

packet (see col 6. lines 55-67).

Birrittella does not disclose response packets being stored in response buffers

independent of which virtual channel the packet belongs.

Scott discloses storing response packets in a response buffer independent of which virtual

channel the packet belongs (see col. 8 lines 9-17).

At the time the invention was made it would have been obvious to one of ordinary skill in

the art to include the response buffer allocation scheme, as disclosed by Scott, in the computer

system as disclosed by Birrittella.

One of ordinary skill in the art would have been motivated to do this in order to avoid

deadlock, as stated in Scott col. 8, line 17.

Regarding claim 29, Birrittella further discloses each of the nodes configured to generate

a first control (request) packet (see col. 6 lines 40-67).

Regarding claims 1 and 7, claims 1 and 7 are method claims corresponding to apparatus claims 10 and 15. As discussed above Birrittella in view of Scott discloses a system that meets the limitations of claims 10 and 15. Since Birrittella in view of Scott discloses the system in claims 10 and 15 the method of claims 1 and 7 is inherent to Birrittella in view of Scott.

Allowable Subject Matter

Claims 2-6, 8-9,11-14, 16-17, 20-23, 25-28, 30, and 31 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.   Manning discloses a method and apparatus for buffer state flow control at the link level.

Watanbe discloses a memory system capable of supporting different memory devices.

Horst discloses a method of data communication flow control in a data processing system.

Birrittella et al., patent number 5,583,990, discloses a system for allocating

messages between virtual channels.

Hagersten discloses a multiprocessor system.

Alvarez II discloses a method for transfer of data between processors in a

multiprocessor system.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Andrew M Waxman whose telephone number is (703) 305-8086.

The examiner can normally be reached on 9:00 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Hassan Kizou can be reached on (703) 305-4744. The fax phone numbers for the

organization where this application or proceeding is assigned are (703) 872-9314 for regular

communications and (703) 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding

should be directed to the receptionist whose telephone number is (703) 305-4700.

Andrew M. Waxman
April 20, 2003

HASSAN KIZOU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600